

ORIGINAL
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TCN 4222
REV #0
09/01/91

TETRA TECH INC.
F.I.T. SITE HEALTH & SAFETY PLAN

Prepared by: [Redacted] Date of Field Activity: 10/1/91 to 11/1/91

OHSR Approval: [Redacted] OR RHSR Approval: Douglas James

DSN-WV412
EPA#WV0988768735

Site Name: New Cumberland Dam/Dump EPA SI Number: TCN-4222

Original Safety Plan: Yes (X) No () PA () SI ()

Address: Street: New Cumberland Lock + Dam

City: New Cumberland County: Hancock

State: WV Zip Code: 26047

Site Contact: [Redacted] Site Phone #: - -

Directions to Site: Along the Ohio River, off of Route 2
north of the town of New Cumberland, WV

Key Tetra Tech Personnel

Responsibilities On-Site

Project Manager: Philip Younis

Site Manager: [Redacted] coordinate + manage field activities

Site Safety Officer: [Redacted] Air monitoring and other H+S activities

EPA SIO: Donna Santiago

Subcontractor: N/A

Other: [Redacted]

Site DescriptionReason For Investigation: Drum removed from floating on Ohio RiverSite History Summary: On April 10, 1990, EPA was informed of a thick greasy coating on the Ohio River. Material was deemed too thin to sample by EPA. On April 18, 1990 a 55 gallon poly drum was found & removed from lock & damBackground Information Sources: Request for Assistance from - Donna Santiago to Greg Ham FIT RPO

Background Material Attached: Yes () No (✓)

Site Map Attached: Yes () No (✓)

Status:

Active (✓) Inactive () Unknown ()

Location:

Urban	()	Residential	()	Landfill	()
Suburban	()	Commercial	()	Dump	()
Rural	()	Industrial	()	Deserted	()

Physical Features:

Flat	()	Barren	()	Streams	()	Ponds	()
Hilly	()	Fielded	()	Rivers	(✓) <u>Ohio River</u>	Lakes	()
Sloped	()	Shrub/brush	()	Coastal	()	Lagoons	()
Mountainous	()	Wooded	()	Estuaries	()	Dams	()
				Marsh	()		

Containers/Structures Involved:

Yes	<input checked="" type="checkbox"/> (X)	No	<input type="checkbox"/> ()	Unknown	<input type="checkbox"/> ()				
Drums:	<input checked="" type="checkbox"/> (X)	Number	<u>1</u>	Condition:	Good	<input type="checkbox"/> ()	Poor	<input type="checkbox"/> ()	
Removed April 1990					Deteriorated	<input type="checkbox"/> ()	Unknown	<input checked="" type="checkbox"/> (✓)	
UST:	<input type="checkbox"/> ()	Number	<u> </u>	Condition:	Good	<input type="checkbox"/> ()	Poor	<input type="checkbox"/> ()	
					Deteriorated	<input type="checkbox"/> ()	Unknown	<input type="checkbox"/> ()	
AST:	<input type="checkbox"/> ()	Number	<u> </u>	Condition:	Good	<input type="checkbox"/> ()	Poor	<input type="checkbox"/> ()	
					Deteriorated	<input type="checkbox"/> ()	Unknown	<input type="checkbox"/> ()	
Warehouses:	<input type="checkbox"/> ()	Number	<u> </u>	Condition:	Good	<input type="checkbox"/> ()	Poor	<input type="checkbox"/> ()	
					Deteriorated	<input type="checkbox"/> ()	Unknown	<input type="checkbox"/> ()	
Laboratories:	<input type="checkbox"/> ()	Number	<u> </u>	Condition:	Good	<input type="checkbox"/> ()	Poor	<input type="checkbox"/> ()	
					Deteriorated	<input type="checkbox"/> ()	Unknown	<input type="checkbox"/> ()	
Others:	<u> </u>	<input type="checkbox"/> ()	Number	<u> </u>	Condition:	Good	<input type="checkbox"/> ()	Poor	<input type="checkbox"/> ()
					Deteriorated	<input type="checkbox"/> ()	Unknown	<input type="checkbox"/> ()	

Task To Be Performed:

Geophysical Monitoring	<input type="checkbox"/> ()	Well Installation	<input type="checkbox"/> ()
Drum Sampling	<input type="checkbox"/> ()	Lagoon Sampling	<input type="checkbox"/> ()
Surface Water Sampling	<input type="checkbox"/> ()	Sediment Sampling	<input type="checkbox"/> ()
Air Sampling	<input type="checkbox"/> ()	Well Sampling	<input type="checkbox"/> ()
Soil Sampling	<input type="checkbox"/> ()	Bulk Sampling	<input type="checkbox"/> ()
Tank Sampling	<input type="checkbox"/> ()	Biota Sampling	<input type="checkbox"/> ()
Walk Through Assessment	<input checked="" type="checkbox"/> (✓)	Other:	<u> </u> <input type="checkbox"/> ()

Task/Operation Health & Safety Risk Analysis:

HAZARD	MEDIA/MAXIMUM KNOWN CONCENTRATION/HAZARD DESCRIPTION				
Chemical	Soil (ug/kg)	Surface Water (ug/L)	Groundwater (ug/L)	Air (ppb or mg/m ³)	Sediment (ug/kg)
1. <u>unknown</u>					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
Biological	Expected Location/Hazard Description				
1. <u>unknown</u>					
2. _____					
3. _____					
4. _____					
5. _____					
Physical					
1. <u>River Hazards</u>	<u>site located in Ohio River</u>				
2. <u>Dam + Lock</u>	<u>currents + undertow</u>				
3. <u>seasonal cond.</u>	<u>cold, rain, snow</u>				
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					

Chemical Hazard Analysis:

TASK TO BE PERFORMED	HAZARD	HAZARD RATING	SPECIAL MONITORING INSTRUMENTS
Task #1: <u>site walk</u> <u>through</u>	Chemical <u>unknown</u> Biological <u>unknown</u> Physical <u>weather</u> <u>water</u>	Low <u>xc</u> Medium () High ()	1. <u>PID</u> 2. <u>FID</u> 3. _____ 4. _____
Task #2: _____ _____ _____ _____	Chemical _____ Biological _____ Physical _____	Low () Medium () High ()	1. _____ 2. _____ 3. _____ 4. _____
Task #3: _____ _____ _____ _____	Chemical _____ Biological _____ Physical _____	Low () Medium () High ()	1. _____ 2. _____ 3. _____ 4. _____
Task #4: _____ _____ _____ _____	Chemical _____ Biological _____ Physical _____	Low () Medium () High ()	1. _____ 2. _____ 3. _____ 4. _____

CHEMICAL HAZARD INFORMATION

CHEMICAL NAME	PEL/STEL/IDLH	ROUTE OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE	CHEMICAL PROPERTIES	INCOMPATIBILITIES	SPECIAL MONITORING
Unknown _____ CAS # _____	PEL- STEL- IDLH-	Ing () Inh () Abs () Con () Inj ()		Specific Gravity _____ Melting Point _____ °C Vapor Pressure _____ mm Ionization Potential _____ V Low Flash Level (LFL) _____ °C Upper Flash Level (UFL) _____ °C Low. Expl. Level (LEL) _____ % Upper. Expl. Level (UEL) _____ % Flash Point _____ °C Ignition Temperature _____ °C		PID () FID () Monotox () Rad M () D Tube () Other _____ Other _____
_____ CAS # _____	PEL- STEL- IDLH-	Ing () Inh () Abs () Con () Inj ()		Specific Gravity _____ Melting Point _____ °C Vapor Pressure _____ mm Ionization Potential _____ V Low. Flash Level (LFL) _____ °C Upper Flash Level (UFL) _____ °C Low. Expl. Level (LEL) _____ % Upper. Expl. Level (UEL) _____ % Flash Point _____ °C Ignition Temperature _____ °C		PID () FID () Monotox () Rad M () D Tube () Other _____ Other _____
_____ CAS # _____	PEL- STEL- IDLH-	Ing () Inh () Abs () Con () Inj ()		Specific Gravity _____ Melting Point _____ °C Vapor Pressure _____ mm Ionization Potential _____ V Low. Flash Level (LFL) _____ °C Upper Flash Level (UFL) _____ °C Low. Expl. Level (LEL) _____ % Upper. Expl. Level (UEL) _____ % Flash Point _____ °C Ignition Temperature _____ °C		PID () FID () Monotox () Rad M () D Tube () Other _____ Other _____

CHEMICAL HAZARD INFORMATION

CHEMICAL NAME	PEL/STEL/IDLH	ROUTE OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE	CHEMICAL PROPERTIES	INCOMPATIBILITIES	SPECIAL MONITORING
<u>unknown</u> CAS # _____	PEL- STEL- IDLH-	Ing () Inh () Abs () Con () Inj ()		Specific Gravity _____ Melting Point _____ °C Vapor Pressure _____ mm Ionization Potential _____ V Low. Flash Level (LFL) _____ °C Upper Flash Level (UFL) _____ °C Low. Expl. Level (LEL) _____ % Upper. Expl. Level (UEL) _____ % Flash Point _____ °C Ignition Temperature _____ °C		PID () FID () Monotox () Rad M () D Tube () Other _____ Other _____
_____ CAS # _____	PEL- STEL- IDLH-	Ing () Inh () Abs () Con () Inj ()		Specific Gravity _____ °C Melting Point _____ °C Vapor Pressure _____ mm Ionization Potential _____ V Low. Flash Level (LFL) _____ °C Upper Flash Level (UFL) _____ °C Low. Expl. Level (LEL) _____ % Upper. Expl. Level (UEL) _____ % Flash Point _____ °C Ignition Temperature _____ °C		PID () FID () Monotox () Rad M () D Tube () Other _____ Other _____
_____ CAS # _____	PEL- STEL- IDLH-	Ing () Inh () Abs () Con () Inj ()		Specific Gravity _____ °C Melting Point _____ °C Vapor Pressure _____ mm Ionization Potential _____ V Low. Flash Level (LFL) _____ °C Upper Flash Level (UFL) _____ °C Low. Expl. Level (LEL) _____ % Upper. Expl. Level (UEL) _____ % Flash Point _____ °C Ignition Temperature _____ °C		PID () FID () Monotox () Rad M () D Tube () Other _____ Other _____

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BIOLOGICAL HAZARD ANALYSIS

ANIMAL		Describe Hazard
ticks	()	u
chiggers	()	n
mosquitoes	()	n
bees	()	n
reptiles	()	n
small mammals	()	n
domestic pets	()	n
man	()	
VEGETATION		Describe Hazard
Poison Ivy (Contact)	()	u
Dense Vegetation	()	n
Poison (Ingestion)	()	known
Dermal Abrasion	()	
Visibility	()	
BIOLOGICAL WASTE	()	Describe Hazard in Detail
unknown		

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Physical Hazard Analysis

Physical Hazard Of Concern	Hazard: Yes = (x)	Task No(s).	Comments
Noise	()		
Heat - ambient air	()		
- Hot Process - Steam	()		
- Hot Process - Incineration	()		
Cold	()		
Rain	(x)	1	seasonal
Snow	(x)		conditions
Electric Storms	()		
Confined Space Entry (Attached Plan)	()		
Heavy Manual Moving/Lifting	()		
Rough Terrain	(x)		rivers edge
Unguarded Floor Openings/Lagoons	()		
Building Entry	()		
Structural Integrity	()		
Neighborhood	()		
Remote Area	()		
Compressed Gases	()		
Using Boats	()		
Working Over Water	(x)	1	pot. sloped banks
Traffic	()		
Explosives	()		
Heavy Equipment Operations	()		
Lifting Equipment Operations - Cranes	()		
- Manlifts	()		
Overhead Hazards	()		
Working at Elevation	()		
Using Ladders	()		
Using Scaffolding	()		
Excavating/Trenching	()		
Materials Handling	()		
Haz Mat. Use/Storage - Flam.Liq./Gases	()		
- Oxidizers	()		
- Corrosives	()		
Fire Extinguisher Required	()		
Demolition	()		
Utilities - Underground	()		
- Overhead	()		
Electrical - General	()		
- High Voltage	()		
Welding/Cutting/Burning	()		
Hand Tools	()		
Power Tools	()		
High Pressure Water	()		
Illumination	()		
Other: Dam - Lock	(x)	1	currents - undertow
Other:	()		

Site Control

Site Work Zone:

When applicable, the following work zones will be implemented.

The **Exclusion Zone** is the area where contamination is known or expected to be present, and has the potential to cause harm to personnel. Entry into the Exclusion Zone requires the use of personnel protective equipment and proper OSHA training.

The **Contamination Reduction Zone** is the buffer zone between the Exclusion Zone and Support Zone. Personal and equipment decontamination is conducted here. Minimal personal protection may be required in this zone, as per the HSP.

The **Support Zone** is located in areas that are considered clean and offer no site related risk to personnel. The Support Zone shall have a first-aid kit, potable water, and shelter from the environment. These shall be available at all times while personnel are working on-site.

Work Zones Being Used: Yes () No ☒

If No, Explain:

WALK THROUGH ASSESSMENT ONLY

Work Zones Can be found on: N/A

Site Map () Sketch on Reverse Side of Page ()

Standard Operating Procedures:

- The buddy system is required for all site work. When using the buddy system visual contact must be maintained at all times.
- All personnel leaving the Exclusion Zone must undergo decontamination.
- All equipment leaving the Exclusion Zone must undergo decontamination or be disposed of in accordance with HSP.
- Hands must be washed prior to each entry into the support zone.
- Practice contamination avoidance.
- No eating, drinking, or smoking except in the designated support zone.
- Beards or excessive facial hair that interferes proper respirator seal are not allowed past the Support Zone.

- In the event PPE is damaged, work shall stop and PPE will be replaced.
- By alert of your awareness and physical condition; do not ignore possible exposure symptoms. If symptoms are suspect, notify the SSO.
- A designated vehicle will be available exclusively for emergency use.
- All areas which come in direct contact with contaminants shall be washed with soap and water immediately.
- The HSP shall be available at the command post or vehicle.
- Personnel should make an effort to remain upwind of contaminants.
- Do not climb over obstacles, and use safety harnesses when applicable.
- Daily Health & Safety meetings shall be required prior to commencement of work.
- Any modifications to this HSP must be approved by either the OHSR or RHSR.

Site Communication:

The following communication techniques shall be implemented:

2-Way Radios () Air Horn () Whistle ()
Megaphone () Hand Signals ~~X~~

<u>Signal</u>	<u>Definition</u>
Hands Clutching Throat	Out of Air/Can Not Breathe
Hands On Top of Head	Need Assistance
Thumbs Up	OK/I Understand
Thumbs Down	No/Negative
Arms Waving Upright	Send Backup Support
Grip Partners Wrist	Exit Area Immediately
Fist Raised Above Head	Stop Immediately

Personnel Protective Equipment

TASK No(s)	TASK No(s)	TASK No(s)
LEVEL D	LEVEL C	LEVEL B
Respiratory Protection Escape Pack X	Respiratory Protection Full Face APR () Cartridge _____	Respiratory Protection SCBA () Supplied Air Line w/ Escape () Tether Line ()
Head Protection Hard Hat X Hard Hat Liner X Hearing Prot. X Safety Glasses X Face Shield X	Head Protection Hard Hat () Hard Hat Liner () Hearing Prot. () Safety Glasses () Face Shield ()	Head Protection Hard Hat () Hard Hat Liner () Hearing Prot. () Safety Glasses () Face Shield ()
Clothing Cotton Coveralls () Domestic () Insulated () Plain Tyvek () Polycoated Tyvek () Saranex () Baricade ()	Clothing Cotton Coveralls () Domestic () Insulated () Plain Tyvek () Polycoated Tyvek () Saranex () Baricade ()	Clothing Cotton Coveralls () Domestic () Insulated () Plain Tyvek () Polycoated Tyvek () Saranex () Baricade ()
Additional Prot. Clothing Rain Gear X Splash Apron X Safety Vest X Other _____	Additional Protective Clothing Rain Gear () Splash Apron () Safety Vest () Other ()	Additional Prot. Clothing Rain Gear () Splash Apron () Safety Vest () Other ()
Gloves Outer Inner Cotton X X Leather X X PVA () () Rubber () () Nitrile () () Neoprene () () Butyl () () Viton () () Other () ()	Gloves Outer Inner Cotton () () Leather () () PVA () () Rubber () () Nitrile () () Neoprene () () Butyl () () Viton () () Other () ()	Gloves Outer Inner Cotton () () Leather () () PVA () () Rubber () () Nitrile () () Neoprene () () Butyl () () Viton () () Other () ()
Boots Outer Inner Leather Safety () X Rubber X () Fireman (Bunker) () () Insulated () () Neoprene () () Hipwaders () () Other () ()	Boots Outer Inner Leather Safety () () Rubber () () Fireman (Bunker) () () Insulated () () Neoprene () () Hipwaders () () Other () ()	Boots Outer Inner Leather Safety () () Rubber () () Fireman (Bunker) () () Insulated () () Neoprene () () Hipwaders () () Other () ()

SAFETY EQUIPMENT/MONITORING INSTRUMENTS/DECONTAMINATION SUPPLIES

SAFETY EQUIPMENT	MONITORING EQUIPMENT	DECONTAMINATION EQUIP.
<input checked="" type="checkbox"/> Potable Water	<input checked="" type="checkbox"/> PID	<input checked="" type="checkbox"/> PPE Level D
<input checked="" type="checkbox"/> Gatorade	<input checked="" type="checkbox"/> FID	<input checked="" type="checkbox"/> PPE Level Mod. D
<input checked="" type="checkbox"/> First-Aid Kit	<input checked="" type="checkbox"/> CGI/O ₂ Meter	<input checked="" type="checkbox"/> PPE Level C
<input checked="" type="checkbox"/> Eye Wash/Shower	<input checked="" type="checkbox"/> MiniRam	<input checked="" type="checkbox"/> PPE Level B
<input checked="" type="checkbox"/> Blow Horn	<input checked="" type="checkbox"/> RAM	<input checked="" type="checkbox"/> 55 gal. Drums
<input checked="" type="checkbox"/> 2-Way Radios	<input checked="" type="checkbox"/> Radiation Meter	<input checked="" type="checkbox"/> Hazard Labels
<input checked="" type="checkbox"/> Portable Phone	<input checked="" type="checkbox"/> Draeger Tubes	<input checked="" type="checkbox"/> Soap
<input checked="" type="checkbox"/> Flash Light	<input checked="" type="checkbox"/> Mercury Meter	<input checked="" type="checkbox"/> Spray Bottles
<input checked="" type="checkbox"/> Tool Kit	<input checked="" type="checkbox"/> CGI w/H ₂ S	<input checked="" type="checkbox"/> Spray Task
<input checked="" type="checkbox"/> Fire Extinguishers	<input checked="" type="checkbox"/> Cyanide Meter	<input checked="" type="checkbox"/> Steam Gun
<input checked="" type="checkbox"/> Safety Fencing	<input checked="" type="checkbox"/> CGI w/CO	<input checked="" type="checkbox"/> Brushes (Large)
<input checked="" type="checkbox"/> Traffic Cones	<input checked="" type="checkbox"/> Heat Stress Monitor	<input checked="" type="checkbox"/> Brushes (Medium)
<input checked="" type="checkbox"/> Caution Tape	<input checked="" type="checkbox"/> Noise Dosimeter	<input checked="" type="checkbox"/> Brushes (Small)
<input checked="" type="checkbox"/> Cascade Set-up	<input checked="" type="checkbox"/> Personal Sampler	<input checked="" type="checkbox"/> Brushes (Fine)
<input checked="" type="checkbox"/> Airline Hose	<input checked="" type="checkbox"/> Passive Air Badges	<input checked="" type="checkbox"/> Buckets
<input checked="" type="checkbox"/> Spare Breathing Air	<input checked="" type="checkbox"/> Weather Station	<input checked="" type="checkbox"/> Acetone
<input checked="" type="checkbox"/> Mech.Retrieval Sys.	<input checked="" type="checkbox"/> Other	<input checked="" type="checkbox"/> Methanol
<input checked="" type="checkbox"/> Safety Rope	<input checked="" type="checkbox"/> Other	<input checked="" type="checkbox"/> 10% Nitric Acid
<input checked="" type="checkbox"/> Safety Harness		<input checked="" type="checkbox"/> Paper Towels
<input checked="" type="checkbox"/> Cooling Vest		<input checked="" type="checkbox"/> Trash Bags
<input checked="" type="checkbox"/> Stretcher		<input checked="" type="checkbox"/> Other
<input checked="" type="checkbox"/> Sorbent Pillows		<input checked="" type="checkbox"/> Other
<input checked="" type="checkbox"/> Portable Blowers		
<input checked="" type="checkbox"/> Ladders		
<input checked="" type="checkbox"/> Other		
<input checked="" type="checkbox"/> Other		

Monitoring

All site monitoring is the responsibility of the SSO. All calibration of monitoring instruments will follow the recommended techniques given by the instrument manufacturer. All monitoring equipment calibration, malfunctions, and results will be documented in the field log book by the SSO.

Type of Monitoring:

Survey/Characterization	<input checked="" type="checkbox"/>	Perimeter ()
Exposure/Breathing Zone	<input checked="" type="checkbox"/>	Work Zone ()

Environmental:

Air monitoring shall be used to measure airborne levels of hazardous substances, in order to determine the appropriate levels of protection needed on-site. Prior to the commencement of field activities, air monitoring shall be performed to determine ambient background conditions using real-time monitoring instruments. Air monitoring shall be required during all field activities within or adjacent to the Exclusion Zone.

During field activities within the Exclusion Zone, daily and periodic air monitoring in the breathing zone shall be done to assess exposure levels and determine the appropriate level of protection needed. The frequency of the monitoring depends on the results obtained, with the maximum time interval between reading not exceeding 15 minutes. If readings indicate the presence of contaminants above background levels, continuous monitoring shall be conducted. Air monitoring shall be conducted each time a new area is entered.

Weather conditions, including temperature and wind direction, shall also be monitored as part of the background conditions. The weather conditions along with the results from the real-time monitoring shall be recorded in the site log book. The following table summarizes the decision criteria to upgrade and down grade based on the environmental monitoring results.

Personnel:

During all field activities personnel shall be monitored by the Tetra Tech SSO or designate for fatigue and thermal exposure. The primary method of monitoring shall be by direct observation of all personnel working on-site. If evidence of fatigue is present the SSO shall implement a work/rest regimen for the affected individual(s). If evidence of thermal exposure exists, the SSO shall modify the work/rest regimen, and if necessary, implement first aid as follows:

DECISION CRITERIA FOR UPGRADING OF
PPE OR WORK STOPPAGE
BASED ON ENVIRONMENTAL MONITORING RESULTS

Agent	Monitoring Instrument	Decision Level ₁	Required Protection
Radiation	Radiation Meter	< 10 mrem/hr	Modified Level D
		> 1.0 mrem/hr and < 100 mrem/hr	Level C <i>Stop Work</i>
		> 100 mrem/hr	STOP WORK <i>STOP WORK</i>
Organics (Volatile)	Photoionization Detector (PID) or Flame Ionization Detector (FID)	Background	Modified Level D
		1 ppm to 5 ppm above background	Level C <i>Stop work</i>
		> 5 ppm	Level B <i>Stop work</i>
Dust, (Respirable)	Real-Time Aerosol Monitor, (RAM)	< 0.1 mg/m ³	Modified Level D
		> 0.1 mg/m ³ and < 0.5 mg/m ³	Level C <i>Stop work</i>
		> 0.5 mg/m ³	Level B <i>Stop work</i>
Carbon Monoxide	Combustible Gas Indicator (CGI)	< 35 ppm	Modified Level D
		> 35 ppm	Level B <i>Stop work</i>
Hydrogen sulfide	CGI	< 10 ppm	Modified Level D
		> 10 ppm	Level B <i>Stop work</i>
Hydrogen cyanide	Toxic Gas Monitor	< 4 ppm	Modified Level D
		> 4 ppm	Level B <i>Stop work</i>
Mercury vapor	Mercury Meter	< 0.05 ppm	Modified Level D
		> 0.05 ppm	STOP WORK
Explosive Atmosphere	CGI	> 20% LEL	STOP WORK
Oxygen Concentration	CGI	< 19.5%	Level B <i>Stop work</i>

Notes:

1. Continuous readings in the breathing zone.
2. Before upgrading to Level B, all work shall stop and the SSO must be notified. Work cannot proceed in Level B without the SSO's prior approval.
3. The decision level is based on the PEL of Arsenic.
4. The SSO should record the TWA at the end of the day and also the SA at the end of each shift by pressing either the TWA or the SA key which will display the aerosol concentration. (SSO should also note the start and end time of each working shift.)

Decontamination Plan

Refer to the following figures for decontamination sequences.

Are personnel required to assist with decon: Yes ☒ No ()
If yes, what level of protection is required for those assisting:
B () C () Modified D () D ☒

(Note: All level B activities require assistance with decon.)

Disposition of Waste/Residuals Management

All residual sampling media, soiled PPE, and decontamination reinstate shall be handled as hazardous waste. All residual sampling media shall remain in the Exclusion Zone. The following describes the disposition of the residual material:

No residual contaminated waste is expected

Contingency Planning

The following are to be located and identified during site orientation:

<input checked="" type="checkbox"/>	First Aid Kit:	<u>Vehicle</u>
	Eye Wash/Safety Shower:	<u>Vehicle</u>
	Emergency Shower:	
	Fire Extinguisher:	
	Public Phone:	
	Site Phone:	
	Two-Way Radio:	
	Telephone Contact List:	<u>Vehicle</u>
<input checked="" type="checkbox"/>	Location of HSP:	<u>Vehicle</u>
	Evacuation Routes:	<u>Vehicle</u>

Directions to Hospital (attached map):

N on Rt 2, across toll Bridge to E Liverpool, OH
Follow signs to Hospital

Recognition/Alert/Evacuation:

An emergency is an unplanned event that threatens the safety of any personnel. All personnel, including subcontractors, must report emergencies to the Tetra Tech SSO and/or Site Manager (SM) immediately. Either the SM or SSO shall initiate the emergency response action. The SM or designate shall have the responsibility of contacting the local dispatch center during an emergency. Evacuation routes shall be established by work area locations. Each work area shall have two exit points. In the event of an evacuation, all personnel are to escape to a pre-planned rendezvous point, decontaminate to the maximum extent possible, and stay uphill and upwind at all times.

Medical Emergencies:

In cases of illness or injuries within the Exclusion Zone, the person must be decontaminated to the maximum extent possible. For serious illnesses or injuries, partial decontamination should be performed. First aid should be administered, by qualified individuals, while awaiting for an ambulance or paramedics.

Any person being transported to a medical facility should take with them the site HSP and information on the chemical(s) they may have been exposed to on-site.

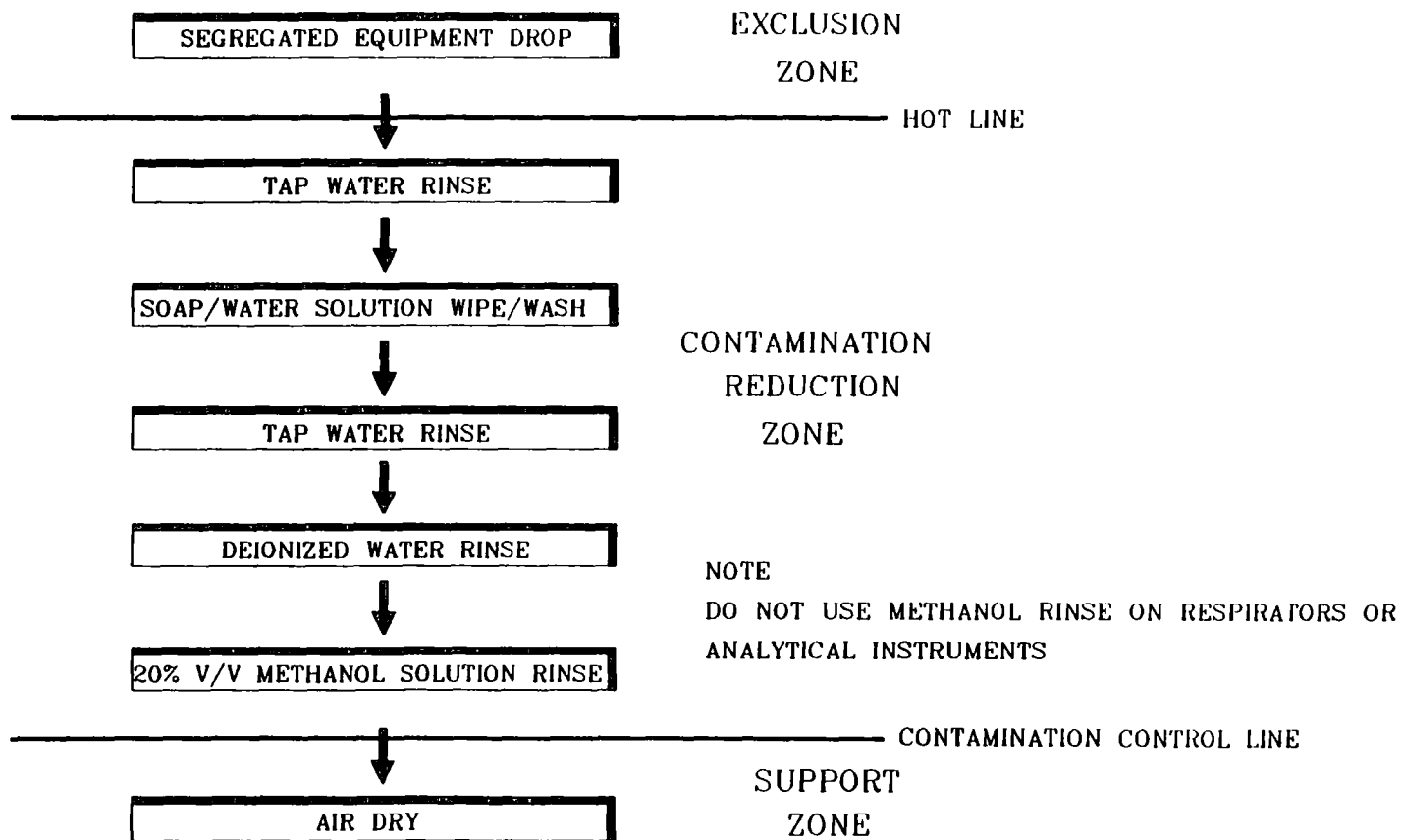
The following on-site personnel have current certifications:

<u>Name</u>	<u>CPR</u>	<u>First Aid</u>	<u>EMT</u>
Non Responsive based on Revised Scope	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	()
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	()
	()	()	()
	()	()	()

Fire or Explosion:

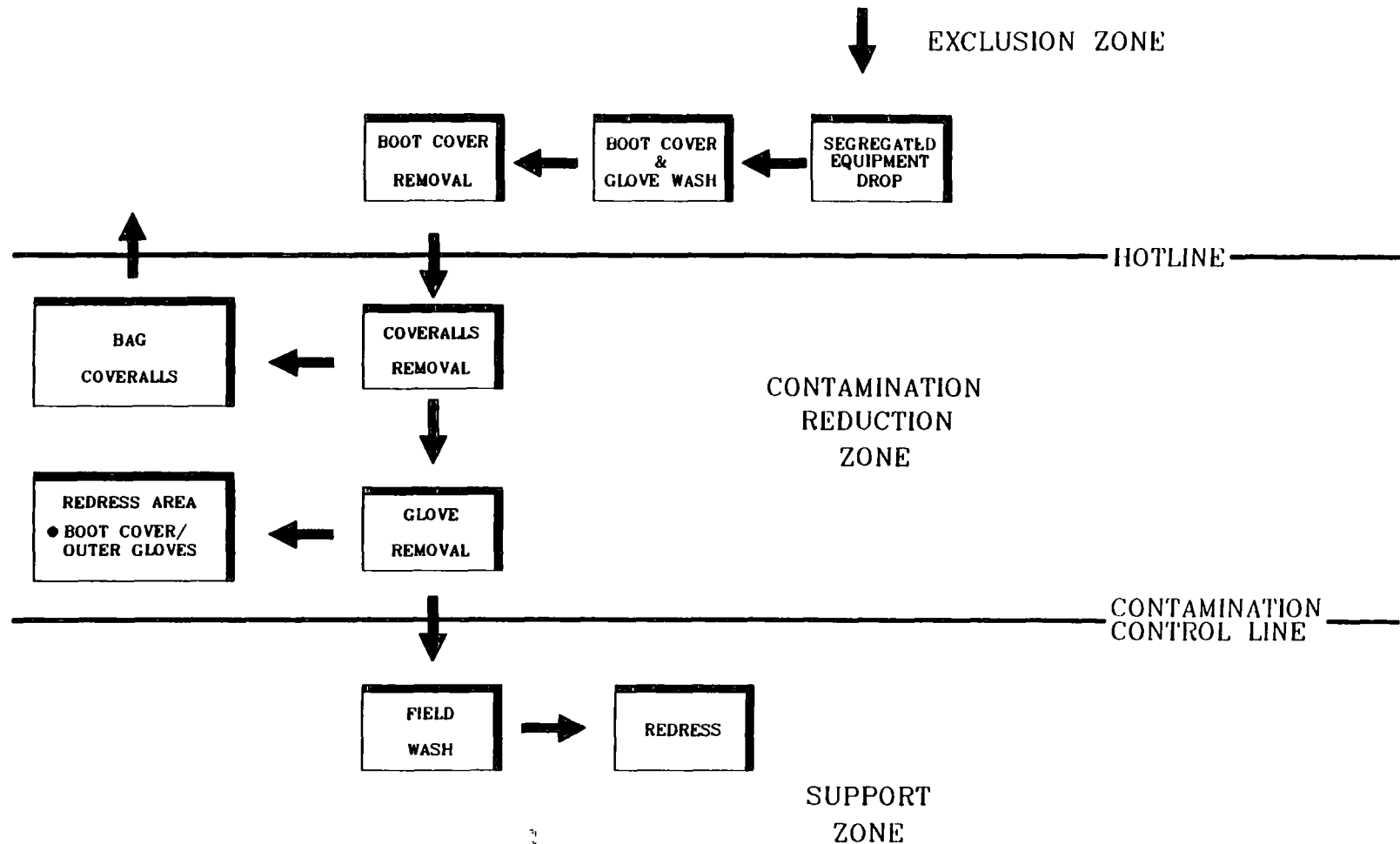
In case of fire or explosion, the local fire department should be contacted immediately. The Site Manager or SSO should be prepared to brief the Officer In Charge on the situation. Advise the Officer In Charge of the location, nature, and identification of the hazardous materials on-site.

DECONTAMINATION SEQUENCE SAFETY EQUIPMENT/MONITORING INSTRUMENTS



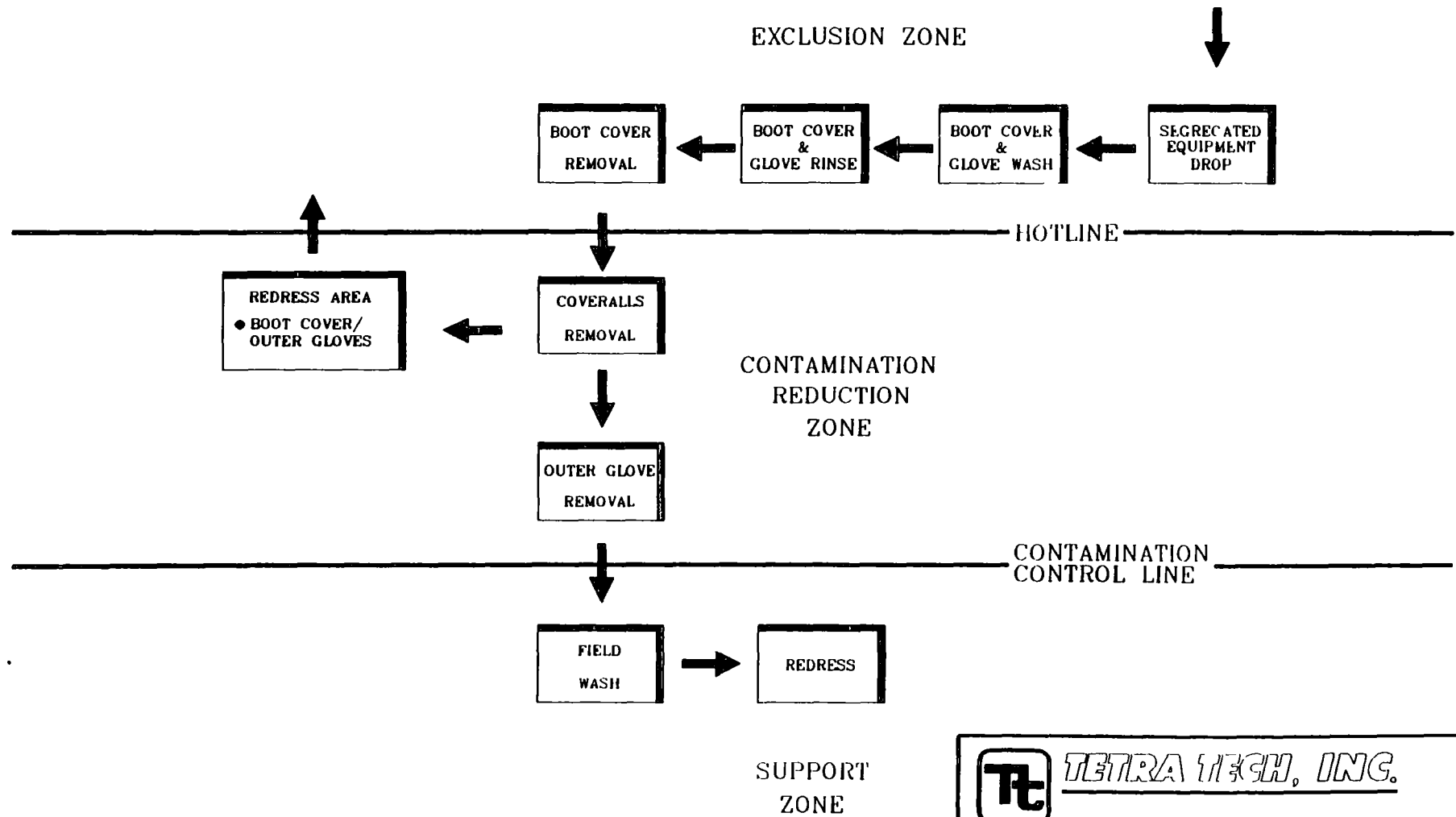
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DECONTAMINATION SEQUENCE LEVEL D PROTECTION



Tt TETRA TECH, INC.

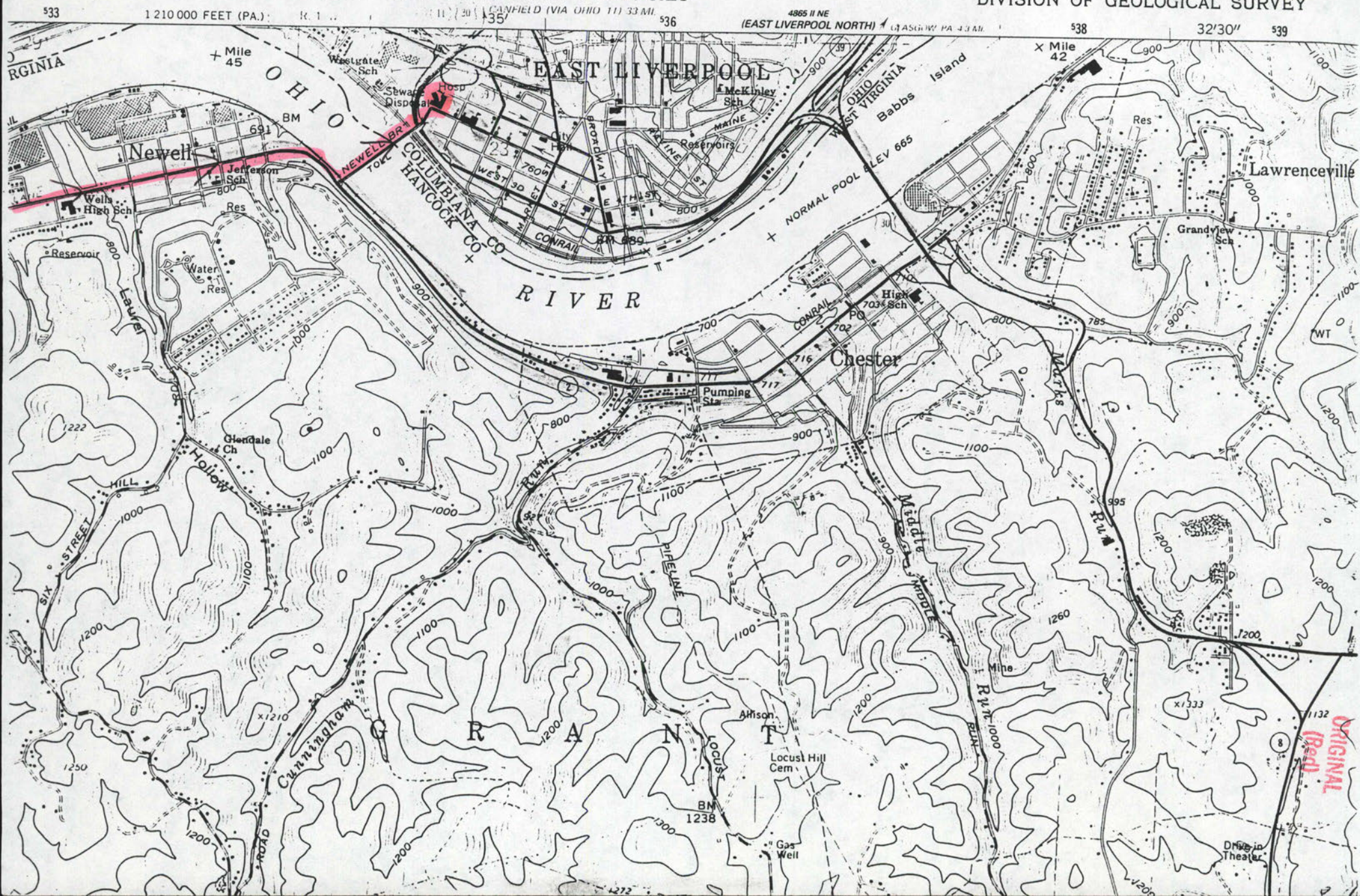
DECONTAMINATION SEQUENCE MODIFIED LEVEL D PROTECTION

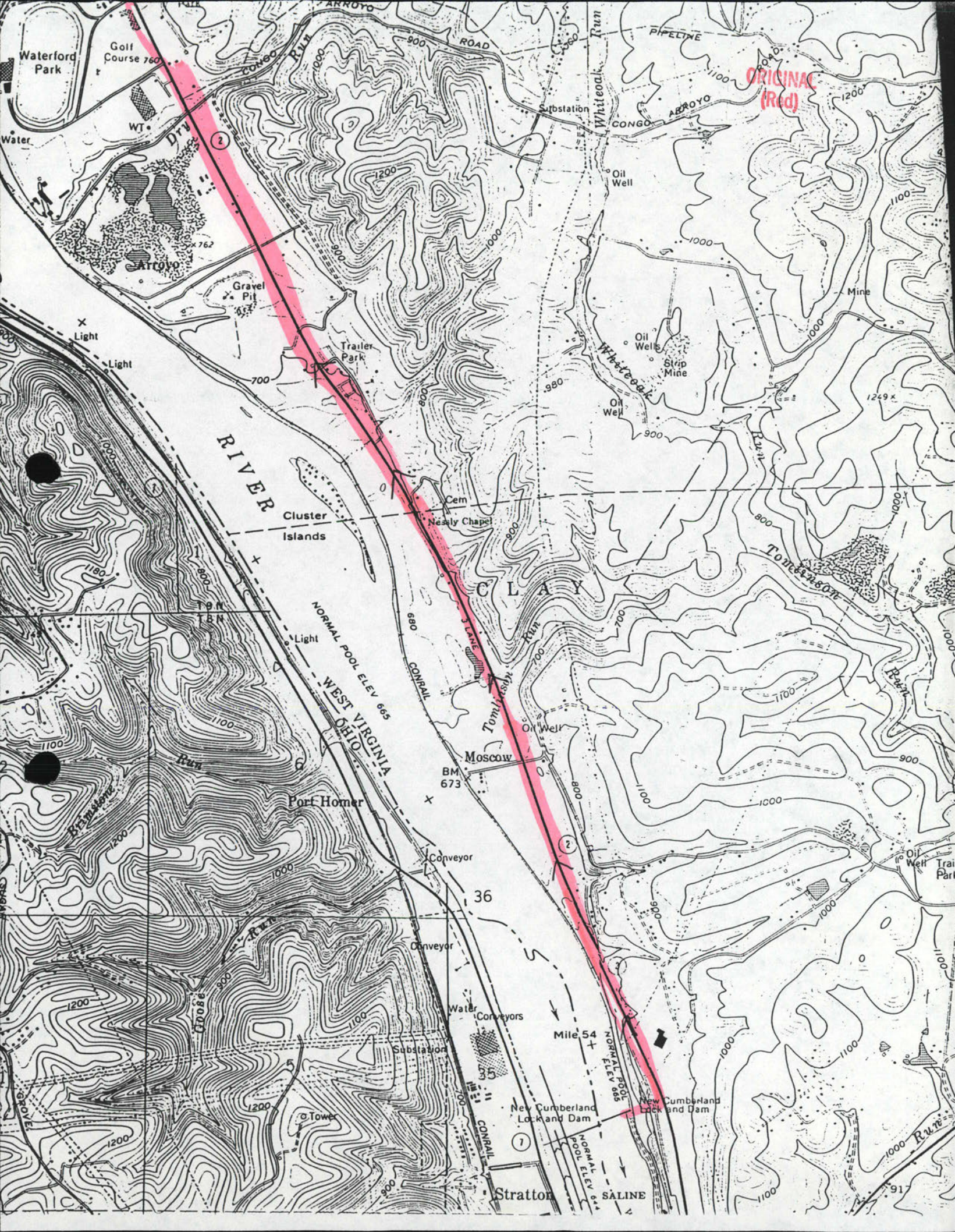


WEST VIRGINIA
DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY

STATE OF WEST VIRGINIA
REPRESENTED BY THE
STATE OF WEST VIRGINIA GEOLOGICAL SURVEY
AND OTHER STATE AGENCIES

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGICAL SURVEY





When directed by the SM, site personnel may use fire fighting equipment available on-site to control or extinguish the fire, and remove or isolate flammable or other hazardous materials that may contribute to the fire.

When the situation is immediately dangerous to life and health, evacuation procedures should be initiated.

Spills/Releases:

In case of a spill or leak, site personnel should:

- 1) Inform the site manager and SSO immediately;
- 2) Under the direction of the SM, locate the source of spillage and stop the flow, if it can be done safely;
- 3) Begin containment and recovery of the spilled materials with sorbent, if present.

Confined Spaces:

☒ No confined space entry anticipated

☐ Confined spaces may be encountered in the following locations/during the following tasks:

☐ Attached confined space entry procedures.

Emergency Notification Procedures:

The following equipment is available for use on or near the site:

Public Phone will be recorded in the field prior to site entry

Public Telephones	
Private Telephones (emergency only)	
Mobile Telephones	
Emergency Alarms/Horns	

In the event of a site emergency, the following telephone procedure must be followed:

STEP #1 - Dial 911

Provide the following information:

- Services needed (police, fire, ambulance)
- Location of incident and where to meet TM

The site street address is:

New Cumberland Lock & Dam

- Nature of incident (injury/illness, fire/explosion, or spill)
- Time incident occurred
- Any action taken to correct incident
- Your name and telephone number (for any call-back)

(Note: Stay at the telephone in case the dispatcher needs to contact you for additional information. Do not hang-up the phone until the dispatcher has hung-up.)

STEP #2 - Telephone Tetra Tech WAM and/or the RHSR at the following number:

302-738-7551

If the WAM or RHSR is not available, ask for the ARCs Program Director. Relay the information you gave above and telephone number where you or the TM can be reached.

Emergency Contacts/Notification:

A. Local Resources

	Name	Telephone #
Ambulance/Rescue Squad	911	- - -
Local Police	Weirton	304-797-8555
State Police		- - -
Fire Dept.	Weirton	304-797-8560
Hospital #1	E Liverpool Medical Center	216-385-7200
Nearest Phone	unknown	- - -

B. Office Resources

EPA Contact	Donna Santiago	215-597-1105
Nearest Tt Office	Fairfax VA	703-385-6000
Tt Newark, DE	302-738-7551	
M. Musetti, OHSR	302-738-7551 (W)	302-836-8856 (H) 302-454-1772
D. Janiec, RHSR	302-738-7551 (W)	215-274-2000 (H)
<div style="background-color: black; color: red; font-size: small;">Non Responsive based on Revised Scope</div> WAM	302-738-7551 (W)	<div style="background-color: black; color: red; font-size: small;">Non Responsive based on Revised Scope</div>

C. Emergency Contacts

Poison Control Center	800-642-3625
National Response Center (For Environmental Emergencies Only)	800-424-8802
Center for Disease Control	404-488-4100 (24-hour)
USEPA Region III	215-597-9899 (24-hour)
CHEMTREC	800-424-9300
Federal Express - Haz. Waste Info.	901-922-1666
Bureau of Explosives, A.A. Railways	202-835-9500

Personnel Training Requirements

All Tetra Tech employees are trained in accordance with 29 CFR 1910.120. All personnel are trained in the use of air purifying respirators (APR), self-contained breathing apparatus (SCBA), and air line respirators (ALR), as well as, training in the respirators capabilities, limitations, and maintenance. As required under 29 CFR 1910.134, all Tetra Tech employees are qualitatively fit-tested prior to wearing respirators. At a minimum, qualitative fit-testing is repeated annually. Subcontractors will be required to provide documentation pertaining to their current status.

Medical Monitoring

All site personnel must maintain a current active status with respect to their employer's medical surveillance program, in order to satisfy 29 CFR 1910.120 (f). Tetra Tech field personnel have physicals updated annually, and are certified annually by a physician for respirator use. Subcontractors will be required to provide documentation pertaining to their current status.

12.0 Acknowledgement

I have read, understood, and agreed with the information set forth in this Health & Safety Plan, and will adhere the protocols specified herein.

Non Responsive based on Revised Scope

Site Manager

Signature

Date

10/21/91

Non Responsive based on Revised Scope

Site Safety Officer

Signature

Date

10/21/91

Field Team Member

Signature

Date

Field Team Member

Signature

Date

Field Team Member

Signature

Date

Field Team Member

Signature

Date

Field Team Member

Signature

Date

Subcontractors

Name

Signature

Date

Name

Signature

Date

Name

Signature

Date

Name

Signature

Date

Safety Report: Please return this page with the final field SHSP to the OHSR.
If there were any changes made or needed for the future, the OHSR should relay
these changes to the RHSR.

Site Name: _____

Charge Number: _____

Tasks Performed

Dates of Activity

Future Activity? Yes () No () If yes, Explain:

Describe if there were any changes made to the protection program.

Summarize findings and monitoring results.

Was the SHSP adequate? Yes () No ()
What changes can be made for future activities?

SSO Signature _____

_____ OHSR Signature